DOCUMENT RESUME

ED 102 441 CG 009 458

TITLE	Neonatal Narcotic Dependence. Report Series 29, No. 1.
INSTITUTION	National Inst. on Drug Abuse (DHEW/PHS), Rockville, Md. National Clearinghouse for Drug Abuse Information.
REPORT NO	DHEW-ADM-74-53; Ser-29-No-1
PUB DATE	Feb 74
NOTE	13p.; Prepared by Donald R. Wesson Associates
AVAILABLE FROM	National Clearinghouse for Drug Abuse Information, P.O. Box 1908, Rockville, Maryland 20850
EDRS PRICE	MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS	*Drug Addiction; *Infant Mortality; *Infants; *Medical Treatment; Social Problems; State of the Art Reviews

ABSTRACT

This brief report suggests that it is evident that many uncertainties still remain with regard to neonatal narcotic dependence. Discussion centers on the precise causes and symptoms of neonatal narcotic dependence, the most efficacious treatment procedures, the relative severity of heroin dependence as compared with methadone dependence in the newborn, and numerous other issues. The report stresses that a narcotic-dependent woman can give birth to a baby who is dependent on narcotics, and if the dependence is severe enough and the baby is untreated, its life can be endangered. (Author/PC)

report series

NATIONAL CLEARINGHOUSE FOR DRUG ABUSE INFORMATION

SERIES 29, NO. 1

FEBRUARY 1974

ED102441

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The National Clearinghouse for Drug Abuse Information recognizes the need for clarifying some of the more complex issues in drug abuse by gathering the significant research findings on each subject and developing fact sheets on the problem. These fact sheets, which are part of the Clearinghouse Report Series, present information about treatment modalities, the pharmacology and chemistry of various drugs of abuse, and opinions and practices of recognized authorities in the field. This publication was prepared by the Clearinghouse and Donald R. Wesson Associates, 527 Irving Street, San Francisco, California 94122, under Contract No. HSM 42-72-99.

NEONATAL NARCOTIC DEPENDENCE

Infants born to narcotic-dependent mothers are often themselves physically dependent on heroin. When deprived of the narcotics it has received through the mother's placenta, the newborn child may develop withdrawal symptoms. Although the newly born infant is often referred to as the "easiest addict to cure" because of the absence of a psychological dependence, failure to make an early diagnosis and begin treatment can endanger the life of the infant.

Both the addicted mother and her baby present hospital staff with numerous problems which inhibit the opportunity for proper postnatal care. The mother usually waits until the last possible moment to enter the hospital and often takes narcotics just prior to admission to relieve labor pains. In spite of the fact that medical complications in both mother and child occur at a high rate, it is difficult to convince the addict to remain in the hospital once her child is delivered. The mother often begins to feel the effects of withdrawal herself and will leave the hospital to obtain more heroin. In addition, the mother's fear that her addiction will be detected will cause her to leave the hospital against medical advice, taking her narcotic-dependent baby with her.

CG 009 458

Epidemiology

The magnitude of the problem of narcotic dependence in newborn infants has never been determined with any degree of accuracy. Although it is known that 80 to 85 percent of addicted women are in the childbearing ages of 14 to 40, it is impossible to determine the number of births in this group without knowing the total number of addicts and the percentage of these that are women. Furthermore, the birthrate among this group is usually based on cases of women who come to a hospital or clinic for delivery. An unknown number of pregnant addicts self-deliver or deliver at home without a physician in attendance. The problem of obtaining statistics is further compounded because some hospitals do not report these cases.

Stone (1971), in the American Journal of Obstetrics and Gynecology, reported on his 10-year observation of pregnant addicts at New York's Metropolitan Hospital. He estimated that in 1960 there was one birth to a drug-addicted mother for every 164 deliveries and that in 1969 the ratio had increased to one in 47. Zimmerman (1972) presented similar figures and stated that in 1971 the total number of reported cases of neonatal narcotic addiction in New York City was 550. This total rose to more than 800 the following year.

Not all babies born to narcotic-dependent mothers exhibit withdrawal symptoms. Estimates of the percentage of children born to narcotic-dependent mothers who exhibit withdrawal symptoms range from 50 percent to 90 percent. Sussman (1963) studied 19 addicted mothers and their babies and found that 17 of the babies had withdrawal symptoms. Perlmutter (1967) studied 21 babies of addicted mothers and found that 54.5 percent exhibited withdrawal symptoms. A French study reported in Concours Medical (1972) that of 384 babies born to addicted mothers, 259 had withdrawal symptoms.

The mortality rate for addicted babies is another area in which little is known. The same factors which make estimating the number of births difficult make ascertaining death rates for this population difficult. To complicate the problem, pregnant addicts who enter the hospital to have their babies often leave within 1 or 2 days. Since withdrawal symptoms may not appear until a day or so later, it cannot be known whether their babies are addicted or what will happen to them if they are.

Estimates of mortality rates for untreated narcotic-dependent babies run as high as 96 percent. Deaths among narcotic-dependent babies are often attributed to dehydration from diarrhea, lack of food intake, multiple congenital anomalies, pneumonia, incomplete expansion of lungs at birth or intracranial hemorrhage.

Diagnosis

The diagnostic procedure for determining narcotic-dependence in newborn babies usually begins with a maternal history. However, many addicted women are hesitant

to admit their use of narcotics, others exaggerate the extent of their habit in the hope of obtaining more drugs, and some will mislead the physician by admitting to their use of only one drug when, in fact, they are using several drugs. Hence, this procedure often proves unreliable in determining whether the child is narcotic-dependent. If maternal narcotic dependence is suspected, a chromatographic analysis of the infant's urine assists in the diagnosis. It is possible for narcotics given to the mother during labor to show up in the infant's urine, since heroin is metabolized to morphine. Moreover, the presence of quinine, which is frequently used to cut heroin, would suggest illegal drug use. Demerol, the most commonly used drug for obstetric analgesia, can be detected and is distinguishable from morphine.

The symptoms of drug withdrawal in the newborn are similar to other complications which are not related to drug abuse and, hence, diagnosis is difficult. Meningitis, hypoglycemia, central nervous system infection, and respiratory difficulties all present symptoms which can be mistaken for narcotic withdrawal symptoms. Although there are no specific symptoms unique to narcotic withdrawal, some symptoms which may indicate withdrawal in newborn babies are:

Highly Suggestive	Suggestive
Irritability	Sneezing
Tremors	Respiratory distress
Vomiting	Twitching
High-pitched cry	Blueness of skin due to insufficient oxygenation of the blood
Hyperactivity	Yawning
Poor food intake	Apnea (transient cessation of breathing)
Diarrhea	Nasal stuffiness
Fever	Tearing
Sustained embracing reflex	Excessive sweating
Seizures	

These signs usually occur within the first 4 days after birth. The most likely to appear first are irritability, high-pitched shrill cries and tremors. It is important to remember that these symptoms are not necessarily indicative of narcotic withdrawal, although their appearance should warrant further examination, particularly if they appear in combination.

The most common medical complication for the infant is low birth weight for its gestational age. More than one-half of narcotic-dependent babies weigh less than 5.51 pounds at birth (average normal weight is 7.04 pounds). Prematurity also occurs more often with this population along with a high incidence of low fetal tissue oxygen levels and aspiration of meconium. Some investigators have reported an increased incidence of inguinal hernias, perhaps related to the infant's hyperactive behavior or hyperirritability.

Medical complications in the mother observed with increased frequency are anemia, syphilis, infectious hepatitis, malnutrition and diabetes. Such difficulties are related more directly to the life style of the mother than to the use of heroin.

Obstetric problems which occur more frequently with narcotic-dependent mothers are premature labor, breech presentations of the fetus, premature rupture of the membranes and toxemia. Many of these complications can be attributed to the result of inadequate prenatal care. It is often difficult for a pregnant narcotic addict to obtain medical attention because of a lack of funds or because of fear of divulging her illegal drug use.

Etiology

It is the mother's use of narcotics that causes the newborn baby's physical dependence on narcotics; the father's physical dependence cannot be transmitted to the fetus. The fetus is exposed to narcotics by passage of the drugs through the mother's placenta. The amount of drug that does reach the fetus is minute, even if the mother takes large doses; thus, detection of narcotics in the placenta, amniotic fluid, fetal blood or fetal tissues is difficult.

The effects of narcotics on the fetus are the subject of much speculation. The drugs entering the circulatory system of the fetus, depending on the amount and frequency will produce in the newborn child the same physical changes present in the mother. The reason that some children of addicted mothers are not born narcotic-dependent may relate to individual ability to metabolize drugs or to the drugs not crossing the placenta or crossing it in insufficient amounts. The infant may also be insensitive and will not respond to the drug unless a metabolic change occurs to trigger the onset of withdrawal signs.

Carl Zelson (1971) of the Pediatric Department of the New York Medical College, Metropolitan Hospital Medical Center, has drawn several conclusions based upon his 10 years of observing maternal addiction:

1. The larger the maternal intake of heroin, the more frequent is the incidence of withdrawal in her baby.

2. There is a direct correlation between the time of the last dosage of heroin by the mother before birth and the likelihood of the newborn infant's manifesting withdrawal signs.

3. The longer the maternal addiction, the more frequent is the occurrence of withdrawal in the newborn child.

Several reports in the literature have offered the hypothesis that opiates possibly interfere with fetal nutrition by an effect upon the placenta, thus accounting for the

high incidence of low birth weight among narcotic-dependent babies. However, narcotic addiction is not the only possible explanation for the lack of normal development observed in this group of infants. The life style often associated with addiction frequently plays a role in contributing to the health problems of the newborn baby. Maternal malnutrition, tobacco smoking, lack of or poor prenatal care, unhealthy sanitary conditions, and multiple drug use by the mother can also contribute to the child's underdevelopment.

Research

Most conclusions regarding the causes and effects of neonatal narcotic dependence have been based solely on clinical observations. This accounts for the markedly differing views on several aspects of withdrawal including the nature and duration of symptoms, results of treatment, and mortality rate.

Zelson (1971) clinically observed 384 babies born to addicted mothers in a 10-year period at Metropolitan Hospital in New York City. Of the children he studied, nearly one-half were of low birth weight (under 5.51 pounds), two-thirds exhibited withdrawal symptoms in the first 4 days of life and two-thirds of this latter group required treatment. Zelson used chlorpromazine (Thorazine®) to relieve the withdrawal signs.

Studies by Glass and Evans (1972) and Zimmerman (1972) support Zelson's findings that about half of the infants born to addicted mothers weigh less than 5.51 pounds. Few laboratory studies have been conducted to study the mechanisms of infant dependence. The problems inherent in generalizing from laboratory studies of addiction are that strict laboratory controls regarding dosage level, frequency of dosage, and environment can be maintained; human abuse, however, is uncontrollable, often involving contaminated drugs, varying dose levels at varying frequencies, and multiple drug use. In addition, the same drug may cause different pharmacological reactions in different animal species, so that drugs causing genetic damage in animals may or may not produce the same changes in humans.

In a study to assess the role of maternal narcotic use upon offspring development, Friedler and Cochin (1972) treated female rats with morphine sulfate for 5-1/2 to 10 days prior to a 5-day withdrawal period and mated the rats immediately following the withdrawal period. Even though not exposed to the drug either in utero or postnatally, the offspring exhibited retarded growth at 3 to 4 weeks of age. The experimenters state that the alterations in growth patterns of the offspring suggest an influence by morphine on the cells or organ systems of the mother. They then conclude that morphine may exert a profound and long-lasting effect on animals not directly exposed to the drug.

Numerous other laboratory experiments have demonstrated that drugs may affect fetal development either by a direct chemical effect or by an alteration of the maternal environment during the gestational period.

Treatment

About 50 percent of infants having withdrawal symptoms will need nothing more than frequent holding, swaddling and careful feeding to alleviate much of their discomfort, hyperirritability and hyperactivity. Under these circumstances, medication may not be necessary. In cases of more severe manifestation of symptoms, medication may be used. In these cases, treatment of hospitalized infants can last from 10 to 40 days.

Narcotics, barbiturates, phenothiazines or sedative-hypnotics have all been used to treat withdrawal symptoms in newborn addicted babies. There is no single drug that seems to have a clear advantage over the others, and each has limitations.

Paregoric (camphorated tincture of opium) was the earliest therapeutic agent used and was found to be effective in the relief of withdrawal symptoms. Morphine and methadone have also been used to treat infant withdrawal. Treatment with morphine is extremely difficult to control and is recommended only for extreme cases where other medications produce no response. Methadone has been used with success, although the fact that it prolongs the infant's hospitalization is a serious drawback (Krause et al. 1958).

Many physicians currently feel, however, that a narcotic should not be given to relieve addiction. Zelson (1971) in his treatment of addicted infants has been reluctant to use a narcotic because he believes that the intrauterine exposure to heroin produces a metabolic change which may be accentuated by the use of another narcotic agent.

Phenobarbital and chlorpromazine have both proved effective in treating symptoms of narcotic withdrawal. In a study by Kahn et al. (1969) comparing the effectiveness of these two agents in controlling symptoms, no differences between them could be found. More recently, diazepam has been used with some success. A study by Nathenson et al. (1971) showed that diazepam is effective with short treatment courses (2.9 - 3.6 days) and was free of major side effects. Persistence of diarrhea was the only major disadvantage. Others feel, however, that diazepam has no clear advantages over phenobarbital.

The drawbacks of using barbiturates for relieving withdrawal are that they may not control the gastrointestinal abnormalities often encountered, and they may intensify respiratory distress. In using chlorpromazine, a too-rapid or sudden reduction of dosage can cause a recurrence of all manifestations of withdrawal. Chlorpromazine may also interfere with the detection of seizures in these infants.

There are similar questions concerning other forms of drug treatment. Although Glass and Evans (1972) recommend the use of phenobarbital and chlorpromazine, Zimmerman does not recommend using phenobarbital, methadone or paregoric because of their addictive properties. Sussman (1963) warns that use of sedatives and narcotics requires caution, since breathing ability, already impaired by the addiction, may be further depressed.

In summary, although various drugs have proven useful in treating narcotic withdrawal symptoms in newborn infants, many medical people feel it is best to avoid use of drugs unless the symptoms become severe enough to be life-threatening. It is also important to offer supportive therapy for complications and coexisting medical problems. Such therapy would include: (1) treatment of infection when present, (2) adequate fluid intake (intravenously if vomiting or diarrhea is present), and (3) treatment of concurrent metabolic aberrations.

Another approach to treatment is to withdraw the mother and fetus during pregnancy. However, in view of the simple and effective treatment procedures for the narcotic-dependent baby, this may not be recommended if there is a possibility of jeopardizing the pregnancy.

Heroin Vs. Methadone

Much controversy has arisen over whether children born to mothers taking high doses of methadone are better or worse off than those born to women addicted to heroin. In more precise terms, the issue involves such questions as whether withdrawal symptoms are exhibited by both heroin-dependent babies and methadone-dependent babies, whether heroin or methadone is more likely to cause addiction in the newborn infant, whether the symptoms are of a similar type and degree, and whether one is more easily treated than the other. Studies thus far completed have yielded contradictory results concerning these questions. It is apparent that no definitive statements can be made at this time concerning the question of which drug is more dangerous to the dependent infant. The conflicting views are evident from the studies cited below.

Blatman (1970) has reported on numerous cases of infants born while the mother was taking methadone in comparison to a group of infants born to mothers who continued their use of heroin during pregnancy. The withdrawal symptoms exhibited by the methadone group were approximately the same as heroin withdrawal symptoms but a bit less pronounced. In those infants who required treatment, the same procedures were followed as for heroin-dependent babies; however, the average period of hospitalization of methadone babies was 15 days while the heroin-dependent infants' stay was 40 days.

Glass and Evans (1972) also found milder withdrawal symptoms in methadone-addicted babies as compared to heroin-dependent infants. However, in their study, duration of treatment was longer for the methadone-addicted children.

Other studies have reported opposite findings. Zimmerman (1972) reported that methadone-dependent babies have more severe withdrawal symptoms than heroin-dependent babies. Rajegowda et al. (1972) studied 38 babies born to heroin-addicted mothers and 15 born to mothers who were taking methadone. Results showed that irritability and tremulousness occurred at a much higher rate for methadone babies

(13 out of 15) than for heroin babies (15 of 38). Furthermore, the symptoms persisted longer in the methadone babies. Treatment with phenobarbital lasted 4 to 11 days for the methadone babies compared to a treatment duration of 2 to 7 days for the heroin babies.

From these studies, it can be seen that the question of whether withdrawal from methadone or withdrawal from heroin is more dangerous to the newborn infant is far from being resolved and that until more evidence is accumulated, no conclusions can be reached.

Conclusion

From the above discussion, it is evident that many uncertainties still remain with regard to neonatal narcotic dependence. Discussion continues concerning precise causes and symptoms, the most efficacious treatment procedures, the relative severity of heroin dependence as compared with methadone dependence in the newborn, and numerous other issues. Certain facts, however, are clear. A narcotic-dependent woman can give birth to a baby who is dependent on narcotics; and, if the dependence is severe enough and the baby is untreated, its life can be endangered. These facts alone indicate the need for further research in this area.

Not only must effective treatment procedures be established, but preventive efforts based on reliable information are necessary. Prospective parents should be made aware of the possible harm that could come to their offspring as a result of their drug-taking behavior.

References

Blatman, Saul. Methadone and children. Pediatrics, 48(2)(Commentaries): 173-175, August 1971.

Blatman, Saul. Neonatal and follow-up. In: Proceedings of the Third National Conference on Methadone. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1970. pp. 82-85.

Blinick, George. Obstetrical aspects through the delivery room. In: Proceedings of the Third National Conference on Methadone. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1970. pp. 80-82.

Blinick, George; Tavolga, William N.; and Antopol, William. Variations in birth cries of newborn infants from narcotic-addicted and normal mothers. American Journal of Obstetrics and Gynecology, 110(7): 948-958, August 1, 1971.

Blinick, George; Wallach, Robert C.; and Jerez, Eulogio. Pregnancy in narcotics addicts treated by medical withdrawal: the methadone detoxification program. American Journal of Obstetrics and Gynecology, 105(7): 997-1003, December 1, 1969.

Cobrinik, Ralph W.; Hood, Thornton, Jr.; and Chusid, Emanuel. The effect of maternal narcotic addiction on the newborn infants: review of literature and report of 22 cases. Pediatrics, 24(2): 288-304, July-December 1959.

Cohen, S.N. and Neumann, L.L. Methadone Maintenance During Pregnancy. American Journal of Diseases of Children, 126: 445-46, 1973.

Concours Medical. Drug addiction in neonates. Concours Medical (Paris), 94(8): 1413-1414, February 19, 1972.

Douglas, Gordon W. Discussion. American Journal of Obstetrics and Gynecology, 109(5): 720-723, March 1, 1971.

Finnegan, L.P.; Connaughton, J.F.; Emich, J.P.; and Wieland, W.F. Comprehensive care of the pregnant addict and its effect on maternal and infant outcome. Contemporary Drug Problems, 1(4): 795-809, Fall 1972.

Friedler, Gladys, and Cochin, Joseph. Growth retardation in offspring of female rats treated with morphine prior to conception. Science, 175(4022): 654-656, February 11, 1972.

Glass, Leonard, and Evans, Hugh E. Narcotic withdrawal in the newborn. American Family Physician, 6(1): 75-78, July 1972.

Goodfriend, Milton J.; Shey, Irving Alfred; and Klein, Milton D. The effects of maternal narcotic addiction on the newborn. American Journal of Obstetrics and Gynecology, 71(1):29-36, January 1956.

Hill, Reba Michels, and Desmond, Murdina M. Management of the narcotic withdrawal syndrome in the neonate. Pediatric Clinics of North America, 10(1): 67-86, February 1963.

Ingall, David, and Zuckerstatter, Marguerite. Diagnosis and treatment of the passively addicted newborn. Hospital Practice, 5(8):101-104, August 1970.

Kahn, Eric J.; Neumann, Lois L.; and Polk, Gene-Ann. The course of the heroin withdrawal syndrome in newborn infants treated with phenobarbital or chlorpromazine. Journal of Pediatrics, 75(3):495-500, September 1969.

Krause, S.O.; Murray, P.M.; Holmes, J.B.; and Burch, R.E. Heroin addiction among pregnant women and their newborn babies. American Journal of Obstetrics and Gynecology, 75(4):754-758, April 1958.

Medical Tribune. Clinic provides health care for pregnant heroin addicts. Medical Tribune, August 25, 1971. p. 20.

Medical World News. Babies seem better off when the mothers are on methadone. Medical World News, 13(28):16-18, July 21, 1972.

Medical World News. Managing the pregnant addict and her baby. Medical World News, 12(19):20-22, May 14, 1971.

Nathenson, Gerald; Golden, Gerald S.; and Litt, Iris F. Diazepam in the management of the neonatal narcotic withdrawal syndrome. Pediatrics, 48(4):523-527, October 1971.

Perlmutter, Johanna F. Drug addiction in pregnant women. American Journal of Obstetrics and Gynecology, 99(4):569-572, October 15, 1967.

Rajegowda, B.K.; Glass, Leonard; Evans, Hugh E.; Maso, Graciella; Swartz, Donald P.; Leblanc, Weiner. Methadone withdrawal in newborn infants. Journal of Pediatrics, 81(3):532-534, September 1972.

Schulman, Carol A. Alterations of the sleep cycle in heroin-addicted and "suspect" newborns. Neuropaediatrie, 1(1):89-100, 1969.

Stone, M.L.; Salerno, L.J.; Green, M.; and Zelson, C. Narcotic addiction in pregnancy. American Journal of Obstetrics and Gynecology, 109(5):716-723, March 1, 1971.

Sussman, Sidney. Narcotic and methamphetamine use during pregnancy. American Journal of Diseases of Children, 106:125-130, September 1963.

Time. The youngest addicts. Time, January 22, 1973.

Wesson, Donald R.; Gay, George R.; and Smith, David E. Treatment techniques for narcotic withdrawal with special reference to mixed narcotic-sedative addiction. Journal of Psychedelic Drugs, 4(2):118-122, Winter, 1971.

Wilson, G.S. et al. Early Development of Infants of Heroin-Addicted Mothers. American Journal of Diseases of Children, 126:457-62, 1973.

Zelson, Carl; Rubio, Estrellita; and Wasserman, Edward. Neonatal narcotic addiction: 10 year observation. Pediatrics, 48(2):178-189, August 1971.

Zimmerman, David. Neonatal addiction problem increasing. Journal (Addiction Research Foundation), 1(7):9, December 1, 1972.

The National Clearinghouse for Drug Abuse Information, operated by the National Institute on Drug Abuse on behalf of the Special Action Office for Drug Abuse Prevention and the Federal agencies engaged in drug abuse education programs, is the focal point for Federal information on drug abuse. The Clearinghouse distributes publications and refers specialized and technical inquiries to Federal, State, local, and private information resources. Inquiries should be directed to the National Clearinghouse for Drug Abuse Information, P.O. Box 1908, Rockville, Maryland 20850.

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

ALCOHOL, DRUG ABUSE, AND
MENTAL HEALTH ADMINISTRATION
5600 FISHERS LANE
ROCKVILLE, MARYLAND 20852

OFFICIAL BUSINESS
Penalty for private use, $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF H.E.W.
HEW 389

U.S. MAIL

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this type of publication.

☐ Check here if your address has changed and you wish to continue receiving this type of publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Alcohol, Drug Abuse, and Mental Health Administration
Printing and Publications Management Section
5600 Fishers Lane (Rm. 6-105)
Rockville, Maryland 20852

DHEW Publication No. (ADM) 74-53
Printed 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION
5600 Fishers Lane
Rockville, Maryland 20852